WHAT IS CLAIMED IS:

1. A storage controller for controlling transfer of input/output data to and from a lower level external apparatus in response to input/output requests received from a higher level external apparatus, said storage controller comprising:

at least one external interface controller for receiving said input/output requests from said higher level external apparatus in accordance with a type of interface with said higher level external apparatus;

at least one control processor which processes said input/output requests; and

a fibre channel interface loop interposed between said external interface controller and said control processor so as to serve as a channel through which information is transferred therebetween.

2. A storage controller according to claim 1, wherein the interface of said external interface controller interfacing to said higher level external entity is a fibre channel interface.

3. A storage controller according to claim 1,

wherein said external interface controller is capable of interface conversion between said fibre channel interface loop and an interface other than fibre channel.

4. A storage controller according to claim 1, wherein said fibre channel interface loop has an electronic switching facility which acts as a channel between said external interface controller and said control processor in response to an input signal.

5. A storage subsystem for controlling transfer of input/output data to and from a lower level storage medium drive unit in response to input/output requests received from a higher level external apparatus, said storage subsystem comprising:

at least one external interface controller for receiving said input/output requests from said higher level external apparatus in accordance with a type of interface with said higher level external apparatus;

at least one control processor which processes said input/output requests; and

a loop of fibre channel interface interposed between said external interface controller and said control processor so as to serve as a channel through which

information is transferred therebetween.

6. A storage controller for controlling transfer of input/output data to and from a lower level external apparatus in response to input/output requests received from a higher level external apparatus, said storage controller comprising:

a plurality of external interface controllers for receiving said input/output requests;

a plurality of control processors which process said input/output requests; and

a loop of fibre channel interface interposed between said external interface controllers on one hand and said control processors on the other hand so as to serve as a channel through which information is transferred therebetween;

wherein each of said control processors comprises:

frame reading means for reading a frame having an address of the processor in question from any of said input/output requests sent through said loop; and

processing means for processing the input/output request corresponding to the frame that was read.

7. A storage controller for controlling transfer of

input/output data to and from a lower level external apparatus in response to input/output requests received from a higher level external apparatus, said storage controller comprising:

a plurality of external interface controllers for receiving said input/output requests;

a plurality of control processors which process said input/output requests;

a loop of fibre channel interface interposed between said external interface controllers on one hand and said control processors on the other hand so as to serve as a channel through which information is transferred therebetween; and

storing means which is accessed in common by said control processors and which stores a logical unit number which the input/output requests are assigned to, and to be processed by said control processors;

wherein each of said control processors comprises:

monitoring means for monitoring operating status of the other control processors; and

takeover means which, if a stopped state of any other control processor is detected, updates said logical unit numbers in said storing means so that the control processor in question may take over the processing of the

stopped control processor.

8. A storage controller according to claim 7, wherein said storing means stores physical addresses on said loop and logical unit numbers of the input/output requests to be processed with respect to each of said control processors, and wherein each of said control processors comprises takeover means which, if a stopped state of any other control processor is detected, updates said physical addresses and said logical unit numbers in said storing means so that the control processor in question may take over the processing of the stopped control processor.

9. A storage controller for controlling transfer of input/output data to and from a lower level external apparatus in response to input/output requests received from a higher level external apparatus, said storage controller comprising:

a plurality of external interface controllers for receiving said input/output requests;

a plurality of control processors which process said input/output requests;

a loop of fibre channel interface interposed between

said external interface controllers on one hand and said control processors on the other hand so as to serve as a channel through which information is transferred therebetween; and

storing means which is accessed in common by said control processors and which stores logical unit numbers of the input/output requests to be processed by said control processors;

wherein each of said control processors comprises:

counting means for counting the number of processed input/output requests;

notifying means for notifying the other control processors of the counted number of processed input/output requests;

acquiring means for acquiring the number of processed input/output requests from the other control processors; and

updating means for updating said logical unit numbers in said storing means so as to average the counts of processed input/output requests between said control processors.

10. A storage subsystem for controlling transfer of input/output data to and from lower level storage medium

drives in response to input/output requests received from higher level host computers, said storage controller comprising:

at least one external interface controller with an interface for receiving said input/output requests from any one of said higher level host computers in accordance with a type of interface with the higher level host computer in question;

a cache memory for temporarily storing data;

at least one higher level control processor which analyzes said input/output requests and which controls accordingly transfer of input/output data between said host computers on one hand and said cache memory on the other hand;

a loop of fibre channel interface interposed between said external interface controller and said higher level control processor so as to serve as a channel through which information is transferred therebetween;

at least one lower level control processor which controls transfer of input/output data between said cache memory on one hand and said storage medium drives on the other hand; and

a drive interface controller which is interposed between said lower level control processor on one hand and

said storage medium drives on the other hand and which permits transfer of input/output data to and from said storage medium drives in accordance with a type of interface with the lower level drive being used.

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